I-70 TRAFFIC & REVENUE STUDY
ISSUES TASK FORCES

TOLLING AND MODELING TASK FORCE MEETING MINUTES

► **Meeting Date:** *April 30, 2014* ► **Time:** *Tolling & Modeling 9:00 am – 12:00 am*

► **Meeting Place:** *CDOT West Campus - 425B Corporate Circle, Golden, CO Lookout Mountain Conference Room*

► **Distribution / Attendees:**

Tolling & Modeling Task Force

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Modeling Task Force Meeting Notes

Topic #1 - Introductions and Meeting Purpose (Ben Acimovic, CDOT)

- Introductions were made.
- Purpose of meeting is to present and discuss modeling results, and develop next steps.

Topic #2 – Discussion of project status and schedule (Ben Acimovic, CDOT)

- Alternatives' cost estimating was complete in February/March 2014.
- Traffic and revenue modeling was complete in March 2014. CDOT then conducted a review of results. In April, results were released to public. Internal screening workshop will be held May 7, 2014. Shortly thereafter screening data/results will be released to public. PLT/TT meeting will be held May 21, 2014 to discuss screening data/results and seek input.

Topic #3 - Presentation of modeling results (Al Racciatti, Louis Berger Group)

- Seeking feedback from issues task force on modeling process and results to help with next week's screening workshop and subsequent PLT/TT meeting.
- **Goals** of Level 1 traffic and revenue modeling: (1) estimate future traffic conditions in corridor; (2) estimate revenue potential for each alternative; (3) provide performance metrics for screening; and (4) integrate with CSS process.
- **Forecast Process & Assumptions** were described and discussed in detail. (See attached presentation slides.)
    - Traffic model (TransCAD) developed based on I-70 Mountain Corridor PEIS for 2025 baseline and an additional detailed link-level tool was developed for projection of traffic to 2075. It is not possible to do an "apples to apples" comparison of some of the alternatives' traffic forecasts to this study's alternatives' traffic forecasts. At key locations traffic volume projections are within 5-10% (+/-) between two forecasts. Small simulation model developed to test accuracy of travel demand model results.
    - Assumptions were reviewed, as described in attached Presentation Slides.
    - All managed lanes (including Peak Period Shoulder Lanes) will have a toll when in use.
    - Value of Time model parameters were based on CDOT's 2014 AGS Feasibility Study. These values are higher than DRCOG values based on commuter trips, but lower than USDOT values that include more congested areas on east and west coasts. LBG mentioned that this was appropriate for this type of corridor. Value of Time is critical as it drives diversion rates in traffic model, therefore need to be sure to capture value of time for recreational trips correctly. LBG recommends for Level 2 and for Level 3 that the corridor should do its own stated preference survey to be absolutely sure capturing and representing visitor market in this corridor correctly.

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- Revenue is highly sensitive to congestion. A little change in traffic demand can result in a high change in revenue. Model assumptions of Value of Time and growth rates are directly related to revenue. LBG recommends in Level 2 and 3 these will need to be refined/made more precise by using micro-simulation models.

- Model is making decision for driver based on this value of time savings. These values of times are total vehicle Value of Time, which are based on vehicle occupancy. Some people will choose to take managed lanes regardless of conditions in general purpose lanes; 5% of traffic was assumed to use the managed lanes even when it doesn't necessarily result in a cost/time savings. Diversion rates could be more refined in Level 2 and Level 3. This could include refining population/income levels to have 10-20 levels, rather than 4-5, including a factor for the value of reliability,and incorporating data from a project specific stated preference survey.

- This corridor is on the forefront of this type of analysis due to emerging managed lanes concept and the primary use of the corridor is for recreation, rather than commuter trips. Research thus far focuses on commuter trips and therefore drivers' willingness for shorter travel times and more reliability; not as much information exists on predicting willingness to pay for recreational trips.

- During highly congested peak periods, the managed lanes will be at capacity while maintaining free-flow traffic conditions. This will result in better operations in the general purpose lanes.

- Historically, a majority of congested days during the peak winter travel season are due to adverse weather conditions.
  The Travel Demand Model for Level 1 does not account for this. This will need to be taken into account in a simulation model in Level 2 and Level 3.

- According to LBG, toll rates may have been high based on value of time. This could affect the traffic patterns/trip diversion rates. LBG feels toll rates should not be set at revenue-maximizing levels. Toll rates will need to be refined/optimized in Level 2 and Level 3.

- AGS Feasibility Study does not state exact growth rate for I-70 Corridor, but states an overall growth rate in region of 0.7% growth through 2035. This reflects an adjustment of growth rates by State Demographer/Labor Department and DRCOG after the 2008 recession. LBG used the growth rate of 1.4% that was used in the PEIS. Growth in travel does not always keep pace with growth in population and employment. The team has not found statistical growth data in summer months. This could be refined in Level 2 and Level 3. Ski towns are definitely seeing more growth in summer times. Forest Service might also have growth rate information based on their visitor counts.

- Capture rates are based on units of vehicle miles travelled (VMT), not vehicles. This is due to the different lengths of trips. Suggestion to explain this further based on units of vehicles during May PLT meeting.

- Unmet demand is seen in the unsuppressed model during the first year of opening due to expanded capacity of the different alternatives, then growth rates are applied to those volumes for future years and unmet demand is inherent to that future growth.

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- **Alternatives' Results** are given for a base condition and six build alternatives. An additional alternative (5.1) was developed as a sensitivity check; results from this alternative are included in presentation. Reported as corridor vehicle trips, tolled vehicle trips, gross toll revenue, transit person trips, and gross transit revenue.

    - The AGS ridership and revenue components included in Alternatives 3-6 was not included in LBG results as agreed upon by the PLT. Level 1 is only about the viability of each alternative agreed on by the PLT. The AGS study looked at the technical and financial feasibility of AGS in the corridor. How would the concessionaire's work/compete with each other (AGS and Managed Lanes)? Would it be the same concessionaire for non-competing interests? Should CDOT's One-Bus-A-Day ridership and revenue be included in the alternatives? These questions would need to be answered in a Level 2 or 3 Traffic & Revenue Study.

    - Level 2 and Level 3 could look at when suppressed demand based on unwillingness to pay toll and unwillingness to travel in general purpose lanes reaches similar state as current conditions. LBG capped general purpose lanes around 55,000 ADT (speeds at 30mph). CDOT could look further at peak period spreading in Level 2 and Level 3 T&R.

    - Level 2 and Level 3 T&R could examine the concept of induced demand and how that affects growth rates (i.e., if more lanes are built then more people will want to utilize them.). This was addressed somewhat with the sensitivity test run on growth rates – utilizing a ranges of growth rates up to 3% per year from 2035-2075.

    - Subtleties within options (i.e. EJMT 3rd bore in Alternative 3 Option 1 versus no EJMT 3rd bore in Alternative 3 Option 3) should be shown in presentation.

    - Alternative 5.1 was run as a sensitivity check and contains the same configuration as Alternative 6, but has slightly larger widths because it is permanent (as opposed to Alternative 6 with its narrower widths due to the temporary nature of the alternative). It will not go through the screening process, but may be looked at in Level 2 and Level 3T&R as a slightly modified alternative.

    - Can we show what year the alternatives start to fail, to give the idea of the life of each alternative? This is a Level 2 T&R exercise.

    - Sensitivity test run on growth rates – utilizing a 3% growth rate from 2025-2075. Revenue results varied as shown on the presentation slides.

    - Alternatives 1 and 2 were developed with no variances, which resulted in larger capital costs. These capital costs can be decreased with design refinements.

    - Should sensitivity test be run on Value of Time at this Level 1 study? CDOT believes this should be looked at in a Level 2 T&R. More data should be gathered, such as through a stated preference survey.

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Topic #4 - Results Discussion (led by Ben Acimovic, CDOT)

- Team should clarify that the conclusions table in the presentation does not include AGS costs/revenue in Alternatives 3-6 for the PLT/TT meeting, since the AGS may be operated by a separate concessionaire.
- Suggestion for the limitations slide (first bullet) - add "incidents" into that list of impacts on congestions.
- In the future, the value of time (VOT) could increase more quickly than the rate of inflation, especially for higher income levels of populations.
- Managed lanes facility might cause average vehicle occupancy to increase, which would change VOT.
- Environmental Justice populations (or others) in the corridor might see perceived injustice when discussing values of time based on levels of income. This is an issue nation-wide, and is being examined nation-wide.
- Speed differentials between managed lanes and general purpose lanes in Alternatives 5 and 6 would be decided in a Level 2 T&R, and used as a traffic modeling input.
- Tony DeVito (CDOT) believes growth rates/traffic projections between the Parsons model and independent Level 1 T&R Study model verify each other at this point. Ralph Trapani indicated that Parsons was able to check VMT between models, but not toll rates, diversion rate, and revenues.

Topic #5 - Next Steps (Ben Acimovic, CDOT)

- CDOT will work on the initial pass of screening alternatives, collaborate with PLT/TT to gather input and refine screening, and then make recommendations on where to go from here. CDOT Will engage PLT on these recommendations prior to presenting to the Transportation Commission.

Attachments:

- I-70 Traffic and Revenue Study Preliminary Results, April 17, 2014, Louis Berger Group, presentation slides.
- Fitch Ratings Report, "Paying for Predictability" U.S. Managed Lanes Projects Special Report, April 2, 2012.

These notes are an interpretation of discussions held. Please provide any additions or corrections to the originator within seven days of the date signed, otherwise they will be assumed correct as written.

► *Prepared By:* *Jen Babbington & Ralph Trapani, Parsons* *Date:* *04-30-14*

Next Meeting: TBD